Priority setting for health technology assessment in The Netherlands: principles and practice

Oortwijn, W.J.; Vondeling, H.; van Barneveld, T.; van Vugt, C.; Bouter, L.M.

published in
Health Policy
2002

DOI (link to publisher)
10.1016/S0168-8510(02)00037-4

document version
Publisher's PDF, also known as Version of record

ELSEVIER

Health Policy 62 (2002) 227–242

HEALTH POLICY

www.elsevier.com/locate/healthpol

Priority setting for health technology assessment in The Netherlands: principles and practice

Wija J. Oortwijn [a,*], Hindrik Vondeling [b], Teus van Barneveld [c], Christel van Vugt [d], Lex M. Bouter [e]

[a] *Department of Health Technology Assessment 253, University Medical Centre Nijmegen, PO Box 9101, 6500 HB Nijmegen, The Netherlands*

[b] *Department of Health Economics, Institute of Public Health, University of Southern Denmark, Odense, Denmark*

[c] *Health Care Insurance Board, Amstelveen, The Netherlands*

[d] *The National Association of General Practitioners (LHV), Utrecht, The Netherlands*

[e] *Vrije Universiteit Medical Centre, Institute for Research in Extramural Medicine, Amsterdam, The Netherlands*

Received 26 September 2001; accepted 24 February 2002

Abstract

The resources for health technology assessment fall short of that needed to evaluate all health technologies. Therefore, priorities have to be set. In The Netherlands, the Health Care Insurance Board tried to address this issue by developing a more explicit priority setting procedure for the Fund for Investigative Medicine, which is the most important health technology assessment programme in The Netherlands. The procedure provides one of the first examples of the application of theoretical principles for priority setting. The aim is to select those health technologies for assessment that are most relevant for policy-making. To determine the policy relevance of research proposals, different procedures for categorising, scoring, and weighting policy criteria were defined, and different classification strategies were explored. Our first experiences using the priority setting procedure are described by means of an example on low back pain. Subsequently, the procedure has been applied to research proposals submitted to the Fund for Investigative Medicine in 1998 to illustrate how decisions on the funding of health technology assessments can be guided. The results show

* Corresponding author. Tel.: +31-24-361-0389; fax: +31-24-361-0383
E-mail address: w.oortwijn@mie.kun.nl (W.J. Oortwijn).

PII: S0168-8510(02)00037-4

a different rating of research proposals into one of three predefined categories of policy relevance, high, intermediate and low, implying that decisions about funding can heavily dependent on the selected procedure. Therefore, it seems to be important that the selected procedure reflects the viewpoint of the organisation wishing to set priorities. The different ratings of the research proposals using a more explicit procedure suggest that there may be scope for further development and application of the procedure.

Keywords: Health technology assessment; Priority setting; Policy relevance; The Netherlands

1. Introduction

To date only a fraction of the existing health technologies have been evaluated while many more new health technologies continue to be adopted without evaluation. The resources to undertake health technology assessment (HTA) fall short of that needed to evaluate all health technologies. This implies that priorities have to be set. Several government agencies have tried to address this thorny issue, especially in the US, UK, and in Spain. Although the resulting publications [1–8] generally emphasise the importance of focusing on societal or policy relevance, the feasibility of the methods proposed has been insufficiently evaluated, thus precluding firm conclusions about their usefulness [9].

In The Netherlands, the Health Care Insurance Board also tried to address priority setting for HTA. The Board aims to stimulate a more evidence-based use of social health insurance resources. Among other activities, the Board administered during the last decade the Fund for Investigative Medicine, which is the most important HTA programme in The Netherlands. This Fund was established in 1988 with an annual research budget of approximately US $15 million[1]. Every year actors in the health care field, with a strong emphasis on university hospitals, are invited by the Health Care Insurance Board to submit research proposals focusing on new or existing health technologies. The projects are commissioned to provide information for evidence-based policy making on the governmental level and should also promote evidence-based use of the relevant health technologies at the practice level. For advising the Minister of Health on funding of research proposals within this Fund, a special Committee for Investigative Medicine was installed. The members of the Committee are experts from the health care field and experts in HTA.

In the conventional procedure to evaluate research proposals, two reviewers of the Committee for Investigative Medicine and two reviewers of the Secretariat of the Committee, who are policy advisors of the Health Care Insurance Board, judge the policy relevance of submitted research proposals in qualitative terms. The reviewers judge, independently, whether the proposals fit within the scope and

[1] Since 2000 the Council for Medical and Health Research (MW-NWO, recently changed into ZonMw) administers the Fund for Investigative Medicine (changed into Health Care Efficiency Research Programme). Its annual budget has been decreased to about 7 US $ million a year.

purpose of the Fund, and assess their policy relevance. Reviewers are asked to express their judgement in a score, ranging from 1 (no policy relevance) to 10 (very high policy relevance). In a meeting of the Committee for Investigative Medicine the arguments of the reviewers are discussed and a summary judgement of each proposal is made. Proposals with intermediate or high policy relevance subsequently are sent to the Council for Medical and Health Research (MW-NWO, recently changed into ZonMw) for a thorough appraisal of scientific quality. The Council for Medical and Health Research was installed in 2000, when the Board for Medical Science of The Netherlands Organisation for Scientific Research, (Gebiedsbestuur Medische Wetenschappen-MW-NWO) became part of the Health Research and Development Council (ZorgOnderzoek Nederland). The Ministry of Health and The Netherlands Organisation for Scientific Research initiated the Council, which is responsible for programming, priority setting and the actual allocation of government funds regarding the whole spectrum between basic health research and health care practice. Based on the (qualitative) judgements of policy relevance and scientific quality projects can be either accepted, turned down, or be deemed eligible for resubmission and reappraisal. Although acceptable scientific quality is, of course, a necessary condition for funding, this part of the procedure falls outside the scope of this article.

The conventional procedure was mainly implicit. Our idea was that explicit use of objective (quantifiable) information would make priority setting more transparent, robust and evidence-based. In different reports the Health Care Insurance Board has described criteria for identifying the relevance of HTA for policymaking, such as burden of disease and costs of the intervention under study [10,11]. However, addressing these criteria explicitly in the grant application form was not required until 1998, when a more explicit and detailed procedure was introduced. In this paper, we describe the first experiences using a new priority setting procedure by means of an example on low back pain. Subsequently, the procedure has been applied to all eligible research proposals submitted to the Fund for Investigative Medicine in 1998 to illustrate how real-world choices on funding of health technology assessments can be guided.

2. Methods

As recommended in the EUR-ASSESS report on priority setting for HTA, possible assessments should be rated in a systematic way using explicit criteria [9]. In the literature the following broad categories of criteria for determining societal relevance are mentioned: (1) number of people affected; (2) expected effectiveness; (3) economic consequences and (4) potential impact on health policy [3,12,13]. These categories can each consist of one or more criteria, depending on the perspective of those wishing to set priorities. The Health Care Insurance Board is restricting societal relevance to policy relevance from their perspective, which was defined according to the following criteria, which are similar to those mentioned in the literature:

(A) Actual burden of disease, given current treatment strategies for the individual patient;
(B) Potential benefit for the individual patient;
(C) Number of patients;
(D) Direct costs of the intervention per patient;
(E) Financial consequences of applying the intervention over time (impact on total costs of health care);
(F) Additional aspects, with an impact on health policy (for example, rapid uncontrolled diffusion).

2.1. Priority setting procedure

In the new priority setting procedure, the reviewers evaluated the proposals using objective data on policy relevance stated in the research proposals. Researchers submitting research proposals are explicitly requested in the application form to provide (preferably quantitative) information about the policy relevance of the proposed research project. In the review process the reviewers fill out an evaluation form, in which they use the information provided by the researchers. A rating procedure to determine the policy relevance of research proposals was proposed by an independent researcher (WO). Since there is no 'gold standard' for priority setting for HTA, each step in the procedure was thoroughly discussed with the Committee for Investigative Medicine. The final procedure, which was approved by the Committee, consists of the following steps.

2.1.1. Categorisation and scoring of criteria

Starting from the six policy criteria mentioned above, ways to categorise and score criteria were defined. Categorical scales for scoring each criterion were devised. The choice for these categorical scales was partly based on the methods employed by the National Institute for Health and Environment—Rijksinstituut voor Volksgezondheid en Milieu (RIVM) for expressing disease severity and cost of illness [14–16]. The RIVM collects basic data relating to the health of the Dutch population and the functioning of the health care system. The RIVM calculated the burden of disease in terms of disability-adjusted life years (DALYs) lost for a number of diseases as part of a report on the present and future public health status in The Netherlands [14]. For this purpose, severity weights of each selected disease were determined on a scale between 0 and 1 by means of applying the Person Trade-Off (PTO) methodology [16]. The procedure used by RIVM applies mainly to criteria A (actual burden felt by the patient–disease severity) and B (potential benefit). In the literature we did not find any indications for determining priority order of the remaining criteria. For reasons of discrimination and comparability a scale with five categories (scores ranging from 1 to 5) was used to score each of the six policy criteria for each research proposal (Table 1).

Table 1
Definition and scoring of policy criteria

Criterion	Measured with	Score
(A) Actual burden of disease, given current treatment strategies	Rating scale (0–1.00), 0 represents the highest burden of disease and 1.00 represents the lowest burden of disease	
	0.81–1.00	1
	0.61–0.80	2
	0.41–0.60	3
	0.21–0.40	4
	0.00–0.20	5
(B) Potential benefit for the individual patient	Rating scale (0–1.00), 0 represents no potential health benefit and 1.00 represents the highest potential benefits for an individual patient	
	0–0.20	1
	0.21–0.40	2
	0.41–0.60	3
	0.61–0.80	4
	0.81–1.00	5
(C) Number of patients	Absolute numbers (per year)	
	0–5000	1
	5001–10 000	2
	10 001–15 000	3
	15 001–20 000	4
	>20 000	5
(D) Direct costs of intervention per patient	US $	
	0–1500 US $	1
	1501–3000 US $	2
	3001–4500 US $	3
	4501–6000 US $	4
	>6000 US $	5
(E) Financial consequences	Qualitative estimation	
	High potential increase in costs	1
	Little potential increase in costs	2
	Cost neutrality	3
	Little potential decrease in costs	4
	High potential decrease in costs	5
(F) Additional aspects with an impact on health policy (e.g. uncontrolled diffusion)	Number of aspects	
	No aspects	1
	One aspect	2
	Two aspects	3
	Three aspects	4
	Four or more than four aspects	5

2.1.2. Rating of criteria

The second step aimed to achieve an overall rating of research proposals into the categories high, intermediate and low policy relevance. Alternative algorithms for arriving at a judgement on the policy relevance of a proposal were studied,

including varying total scores that can be used as cut-off points to distinguish between high, intermediate and low policy relevance. We first used a simple additive procedure for reasons of practicability. In this procedure the total score (TS) was calculated on the basis of the formula: TS (A + B + C + D + E + F), where A–F reflect the score of each criterion. This implied that the total score of a research proposal could range between a minimum score of 6 (if all 6 criteria were assigned the minimum score of one) and a maximum score of 30 (if all 6 criteria were assigned the maximum score of 5) (Table 1). In this procedure no weighting methods were used, implying that all criteria are equally important. This procedure was called 'non-weighted procedure'.

2.1.3. Weighting the criteria

The third step of developing an explicit procedure focused on weighting the various criteria [3]. Three of the six criteria (A–C) reflect the potential effects on health, while two of the six criteria (D–E) reflect the potential effects on costs and only one criterion (F) reflects additional aspects relevant for health policy. The focus of attention now has changed from individual criteria (A, B, C, D, E and F) to categories of criteria (category I, effects on health including criterion A, B and C; category II, effects on costs, including criterion D and E, and category III, including only criterion F, additional effects on health policy). Since all criteria are combined in an overall score (TS) in the 'non-weighted procedure', this distribution implies that the issue regarding effects on health is represented to a larger extent in the overall score than the other two issues. Therefore, it was decided to examine the effects of employing two alternative weighting algorithms within the priority setting procedure.

In the first instance, the scores of the three categories (I, II and III) received the same value, meaning that they are equally important. Therefore, this procedure was called the 'equal weights procedure'. As a consequence, the following formula was used for calculating total scores: $TS = (A + B + C) + (1.5(D + E)) + (3F)$. This implied that the total score of a research proposal could range between a minimum of nine and a maximum of 45.

For the second algorithm, the relative importance of the potential effects and costs (categories I and II) received equal weighting, while the criterion 'additional aspects with an impact on health policy' (category III) received a lower weighting rate. This procedure was called 'different weights procedure'. In this procedure the total score was based on the formula: $TS = (A + B + C) + (1.5(D + E)) + (F)$. This implied that the total score of a research proposal could range between a minimum of seven and a maximum of 35.

2.2. Classification of research proposals

To judge the policy relevance of research proposals submitted to the Fund for Investigative Medicine the scores of (all three variants of) the priority setting procedure had to be transformed into categories representing low, intermediate or high policy relevance. Because of reasons of practical applicability two different

Table 2
Procedure-specific range of scores and associated cut-off points

Procedure	Policy relevance					
	Strict strategy for policy relevance			Relaxed strategy for policy relevance		
	Low	Intermediate	High	Low	Intermediate	High
Non-weighted	6–16	17–23	24–30	6–10	11–18	19–30
Equal weights	9–23	24–34	35–45	9–15	16–27	28–45
Different weights	7–18	19–27	28–35	7–12	13–21	22–35

strategies were used. First, it was decided to take the same distribution of scores (1–4, low; 5–7, intermediate and 8–10, high policy relevance) as used in the conventional procedure. Therefore, the bottom 40% of the potential range in scores (maximum score–minimum score) represented low policy relevance, the following 30% of the potential range in scores represented intermediate policy relevance, and the highest 30% of the potential range in scores represented high policy relevance. This strategy was called 'strict strategy'. Secondly, a less strict classification scheme was chosen, leading to the following distribution: the bottom 17% of the potential range in scores represented low policy relevance, 33% of the potential range in scores represented intermediate relevance, while the highest 50% of the possible range in scores represented high policy relevance. This strategy was called the 'relaxed strategy'.

Combining the three procedures for scoring and the two strategies for arriving at a judgement on policy relevance allows for calculation of six sets of procedure-specific ranges of scores and associated cut-off points between categories of policy relevance (Table 2).

A comparison between the process of the conventional procedure and the new priority setting procedure is given in the Fig. 1 below.

2.3. Research proposals

In 1998, 77 research proposals were submitted to the Fund for Investigative Medicine, of which 66 (86%) met the inclusion criteria for Investigative Medicine. Of these, 25 had to be excluded due to missing data in the research proposals necessary for the priority setting procedure. Therefore, 41 (62%) research proposals were eligible for the priority setting procedure. Most of these research proposals focused on therapeutic interventions (78%), while 10% focused on diagnostics, 5% on preventive procedures and 7% were meta-analyses. We applied the different steps of the priority setting procedure to determine the policy relevance of all research proposals. To demonstrate how each of the three procedures for scoring and each of the two strategies for arriving at a judgement on policy relevance can guide decision making in real practice we randomly selected the research proposal on low back pain as an example.

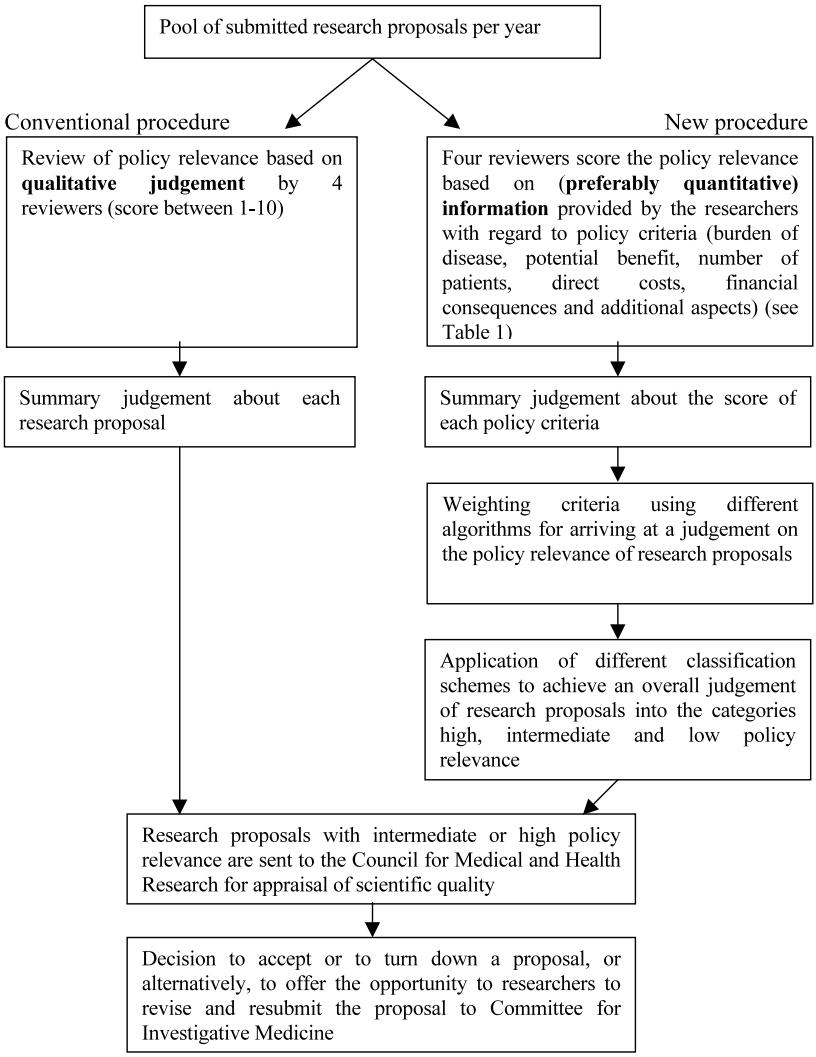

Fig. 1. Comparison of the conventional and the new priority setting procedure.

2.4. Background information of research proposal on low back pain

Low back pain (for which no specific cause could be determined) is a frequent problem in many countries. In most cases pain will be reduced after a few weeks, and then most people can perform their daily activities again. For some patients, however, low back pain will become a chronic disease, with a marked impact on functional status and increasing the costs for treatment. Results of previous studies show that chronic low back pain is mainly determined by psychological and social factors. In the proposed study current practice will be compared with a 'minimal'

intervention, which consist of an initial consult of 20 min, given by a general practitioner, and one or two follow up consults of 10 min. These consults are focusing on psychological and social aspects with regard to low back pain. General practitioners will be trained and supported for this purpose. In current practice, general practitioners follow a guideline for treating patients with low back pain, which is produced by the national organisation of general practitioners. The central research question of this proposal is: is the functional status of high-risk patients with low back pain improved after a 'minimal' intervention of the general practitioner as compared with current practice? The primary outcome measure used is functional status after 6, 12, 26 and 52 weeks. Functional status is measured by specific measures of functional impairment due to low back pain, recovery experienced by patients themselves, intensity of pain, severity of the most important complaint and productivity losses. The secondary outcome measure is cost-effectiveness of the experimental intervention compared with current practice.

2.5. Policy relevance of the research proposal

The following information concerning the six policy criteria (A–F) was stated in the research proposal.

2.5.1. Effects on health (A–C)

The patient population includes all new patients with low back pain. The proposal is focusing on those patients who have a high risk for chronic low back pain. The incidence of low back is 36 per 1000 patients registered per year in general practices in The Netherlands. Of the patients 60% still have complaints after 4 weeks. Of these patients, 33% is at high risk for chronic low back pain. This results in seven per 1000 high-risk patients. The minimal treatment aims to prevent chronic low back pain by stimulating functional recovery and pain relief. This will lead to a reduction in sick leave and will reduce referrals to physiotherapists, manual therapists or to a pain centre as compared with current practice. In current practice 60% of all new patients with chronic low back pain are referred to a physiotherapist.

2.5.2. Effects on cost (D–E)

Direct costs are cost of diagnosis and of treatment of low back pain. The mean direct costs per patient are 1500 $ US per year. Indirect costs are costs of productivity losses. The mean indirect costs per patient are 12 000 $ US per year. The costs of the new intervention (developments costs and costs of implementation) are probably low. The researchers expect a decrease in the number of consults of general practitioners, in the number of referrals (to a physiotherapist and pain centres), and in the number of subscriptions of pharmaceuticals to relief pain. The researchers expect that the total costs can be reduced by 33%.

2.6. Additional aspects with an impact on health policy (F)

Researchers are, for example, requested to state whether their subject of study is on a published list of topics that should be given priority as identified by the Health Care Insurance Board [17]. The Health Care Insurance Board describes low back pain as one of the research areas in need of assessment. In addition, the potential of the study to increase the cost-effectiveness of the Dutch health care is described as well.

3. Results

3.1. Application of the priority setting procedure

We applied the different steps of the priority setting procedure to determine the policy relevance of the research proposals under study. The application is illustrated by means of the research proposal on low back pain.

3.1.1. Step 1, scoring of criteria

Four independent reviewers (two experts from the Committee for Investigative Medicine and two policy advisors of the Health Care Insurance Board) scored the policy criteria on an evaluation form. All scores were discussed in a meeting of the Secretariat of the Committee for Investigative Medicine. In this meeting, a summary judgement was made for all policy criteria based on the mean score from all evaluation forms. Information for criterion A is described qualitatively in the research proposal ('having pain and being limited in performing daily activities'). In the summary judgement the actual burden of chronic low back pain was given a score between 0.61 and 0.80 on a rating scale (0, highest burden; 100, lowest burden). From Table 1 this measure results in a score of two for determining policy relevance. The potential benefit for the individual patient (criterion B) is also described qualitatively ('the minimal intervention aims to prevent chronic low back pain, resulting in functional recovery (defined as performing daily activities) and pain relief'). The reviewers judged the presupposed benefits between 0.41 and 0.60. This score on the rating scale results in a score of three for determining the policy relevance of the research proposal. The number of patients involved (criterion C) was calculated as seven per 1000 high-risk patients. If we take the number of registered patients with low back pain per year in general practices (about 10% of the total population—in 1997 about 14.2 million) it can be calculated that the absolute number of high-risk patients with low back pain per year is about 10 000. This evidence resulted in a score of two for calculating the policy relevance (Table 1). The direct costs of the intervention per patient (criterion D) were given in the research proposal (1500 US $), which led to a score of one. The financial consequences (criterion E) of the project were described qualitatively ('decrease in the number of consults of general practitioners, in the number of referrals (to a physiotherapist and pain centres), and in the amount of pharmaceuticals to relief

Table 3
Score of a proposal for treatment of low back pain using three procedures

Procedure	Algorithm	Range of score	Actual total score
Non-weighted	TS = (A + B + C + D + E + F)	6–30	17
Equal weights	TS = (A + B + C) + (1.5(D + E)) + (3F)	9–45	28
Different weights	TS = (A + B + C) + (1.5(D + E)) + (F)	7–35	20

pain. The total costs of low back pain can be reduced by 33%.'). The reviewers judge this information as a high potential decrease in costs, resulting in a score of five. The final criterion (F) is focused on the additional aspects with an impact on health policy. This criterion cannot be measured in quantitative measures, and is therefore qualitative described in the research proposal ('Low back pain is of high interest to policy makers in The Netherlands. In documents produced by the Ministry of Health low back pain is listed as one of the research areas in need of assessment. In addition, low back pain is also a high priority to the Health Care Insurance Board'). The reviewers mentioned three aspects, resulting in a score of four. We used this information to determine the policy relevance of the three different procedures for weighting as described below.

3.1.2. Step 2, rating of criteria

Based on the 'non-weighted procedure' (TS = A + B + C + D + E + F) the research proposal on minimal treatment of low back pain received a total score of 17 (range of 6–30) (Table 3).

3.1.3. Step 3, weighting the criteria

Two alternative weighting algorithms that were used are the 'equal weights procedure' and the 'different weights procedure'. The total score has been calculated based on these alternative procedures as well, and are also presented in Table 3.

3.2. Overall judgement on policy relevance

To determine whether the research proposal should be granted or not, the actual total scores of the research proposal on all three variants of the priority setting procedure had to be transformed into categories representing low, intermediate or high policy relevance. For this purpose the cut-off points of the 'strict' and 'relaxed strategy' were used. Using the 'strict strategy' the research proposal was determined to have intermediate policy relevance in all three procedures. However, in the 'non-weighted procedure' and the 'different weights procedure' the total score of the research proposal was very close to the range of being classified as having low policy relevance. When we used the 'relaxed strategy' a different classification resulted. Within the 'non-weighted procedure' and the 'different weights procedure'

Table 4
Policy relevance of a research proposal on low back pain

Procedure	Policy relevance					
	Strict strategy for policy relevance			Relaxed strategy for policy relevance		
	Low	Intermediate	High	Low	Intermediate	High
Non-weighted		X			X	
Equal weights		X				X
Different weights		X			X	

the research proposal was classified as having intermediate policy relevance, although the total score was very close to the range of high policy relevance. In the 'equal weights procedure' the research proposal was classified as having high policy relevance**.** The overall judgements of the research proposal are summarised in Table 4.

We used the same procedure for classifying all eligible research proposals that were submitted to the Fund for Investigative Medicine in 1998. Table 5 shows the number of proposals that were classified as having low, intermediate or high policy relevance using the different classification strategies. The use of the 'strict strategy' implied that none of the research proposals was classified as having high policy relevance. Most research proposals were classified as having low policy relevance, meaning that these proposals would not be funded. When using the 'relaxed strategy' most research proposals were classified as having intermediate policy relevance, while only a small proportion was classified as having low policy relevance. The impact of the different procedures for weighting the criteria on the classification of research proposals is marginal.

Table 6 shows that only in a few cases ($N = 3$, 7%) the choice of the procedure for weighting the criteria and the choice of the 'strict' versus the 'relaxed strategy'

Table 5
Policy relevance of all eligible research proposals ($N = 41$) submitted to the Fund for Investigative Medicine in 1998

Procedure	Number of research proposals with low, intermediate or high policy relevance					
	Strict strategy for policy relevance			Relaxed strategy for policy relevance		
	Low	Intermediate	High	Low	Intermediate	High
Non-weighted	26	15	–	3	32	6
Equal weights	23	18	–	3	28	10
Different weights	22	19	–	2	28	11

Table 6
Classification of all eligible research proposals into one or more categories of policy relevance using six alternative priority setting procedures

Classification	Number of proposals (percentage of total, $N = 41$) (%)
Low policy relevance in all procedures	2 (5)
Intermediate policy relevance in all procedures	1 (2)
Low policy relevance in five procedures, and intermediate policy relevance in one procedure	1 (2)
Intermediate policy relevance in five procedures, and low policy relevance in one procedure	4 (10)
Intermediate policy relevance in five procedures, and high policy relevance in one procedure	5 (12)
Intermediate policy relevance in four procedures, and low policy relevance in two procedures	3 (7)
Intermediate policy relevance in four procedures, and high policy relevance in two procedures	2 (5)
Low policy relevance in three procedures, and intermediate policy relevance in three procedures	18 (44)
Intermediate policy relevance in three procedures, and high policy relevance in three procedures	5 (12)

resulted in the same classification. The alternative procedures have, in particular, an impact on the classification of research proposals as having low versus intermediate policy relevance ($N = 18$, 44%). As only research proposals with intermediate and high policy relevance are sent to the Council for Medical and Health Research for an appraisal of scientific quality, these results indicate that the priority setting procedure may be critical for the funding of research proposals.

4. Discussion

We conclude that the use of alternative priority setting procedures resulted in a different rating of a majority of the research proposals into the categories of low, intermediate and high policy relevance. The different strategies result in different decisions whether funding of HTAs can be justified or not.

In interpreting the value of the new procedure for priority setting for HTA, various methodological aspects should be taken into consideration. Firstly, the results show that the use of less strict cut-off points ('relaxed strategy') led to a different distribution of research proposals in the three categories: low, intermediate and high policy relevance. The impact of weighing is important in determining the range of possible scores and therefore facilitates discrimination between proposals, due to possibilities for scoring (scores differ between 6–30; 9–45 and 7–35). The final decision about whether or not a research proposal should be granted is therefore dependent on the strategy chosen. Secondly, it is important to identify which actors will be involved in the priority setting procedure and what objectives

need to be fulfilled. These objectives will determine the criteria needed to be taken into account. Whether or not a priority setting procedure has to be set up by an independent person, as done in our study, can be discussed. An advantage of involving independent persons is that an influence of conflicts of interest can be minimised. To ensure that priorities address questions of importance to policy it is important to combine at least the perspectives of decision-makers and researchers. In addition, in the case of the Health Care Insurance Board we could question whether the scope of the priority setting procedure within the Fund for Investigative Medicine is not too narrow. The procedure excludes benefits to other sectors than health care [18]. It is not clear whether inclusion of this aspect would change the classification of research proposals, which needs further research in the future.

On the basis of this study, the Health Care Insurance Board adapted the application form and the judgement forms for the new annual cycle in 1999 [19]. In the new application form researchers are requested provide, preferably quantitative, information about the policy criteria. They are also requested to justify quantitative information by references. These changes are still used in the programme of ZonMw, which administers the Fund for Investigative Medicine, changed into the Health Care Efficiency Research Programme, since 2000 [20]. Our procedure for priority setting for HTA was also selected for adaptation for the current development of an Early Warning System for identification and assessment of new health technologies in Denmark. From the first experiences it can be concluded that adaptation of the priority setting procedure is feasible, but that there are some methodological issues to be addressed [21].

The most important challenges resulting from this study concern methodological issues such as defining suitable indicators and cut-off points for policy criteria. In the context of the Fund for Investigative Medicine no obvious cut-off points were described in the literature. Defining suitable criteria and cut-off points is strongly dependent on the actors involved in the priority setting process. Those involved in any HTA programme should be clear about how priorities will be identified and who is responsible for which elements in the procedure. To date, the use of weighting procedures in priority setting for HTA has hardly been studied. We are aware of the fact that the scoring and weighting procedures used in the procedures are not validated. Therefore, it is recommended to study the impact of different ways of defining weighting factors and their impact on the final priorities for funding research in more detail. The choice of scoring and weighing procedures is dependent on the time available for developing a priority setting procedure and on the practical applicability of the procedure chosen. Also, more research is needed to assess the construct validity of the procedure, and to assess the influence of different reviewers. One clear advantage of the priority setting procedure is that by using evidence from research proposals for calculating priority scores, the procedure becomes more transparent than using subjective judgements of reviewers only. An important practical prerequisite for successfully applying the priority setting procedure is that all necessary information needs to be available for scoring research proposals, which is labour intensive. In our study we found that 25 out of 66 proposals (38%) had to be excluded due to missing data. Because of the lack of

data, it is recommended to provide the applicants with clear information to ensure that all questions will be answered and will be (more) evidence based. This will lead to better quality of data for the priority setting process.

With limited resources, research should clearly be undertaken only on the basis of those research proposals which contribute most to the objectives of the funding organisation and which provide the maximum benefit for the limited resources available [9; 18-19]. The use of explicit and transparent priority setting procedures will certainly contribute to this. However, priority setting should not entirely be based on policy relevance. Next to the policy relevance, other aspects such as the scientific quality and the cost of research should also be taken into account when actually funding proposals.

We conclude that this study provides one of the first examples of the application of theoretical principles for priority setting for HTA in a real world setting. The different prioritisation of the research proposals using the different procedures suggests that there may be scope for further development and applications of a more explicit priority setting procedure in different settings. As a minimum we believe that this study strengthens the arguments for more explicit and transparent procedures for setting priorities for HTA.

References

[1] Eddy DM. Selecting technologies for assessment. International Journal of Technology Assessment in Health Care 1989;5:485–501.
[2] Lara ME, Goodman C. National priorities for the assessment of clinical conditions and medical technologies. Washington DC: National Academy Press, 1990.
[3] Donaldson MS, Sox HC, editors. Setting priorities for health technology assessment: a model process. Washington DC: National Academy Press, 1992.
[4] NHS Executive. Report of the NHS Health Technology Assessment Programme 1996. Leeds: NHS Executive, 1996.
[5] National Co-ordinating Centre for Health Technology Assessment. The annual report of the NHS Health Technology Assessment Programme 1999. London: Department of Health, 1999.
[6] Davies L, Drummond M, Papanikoloau P. Prioritising investments in health technology assessment: can we assess the potential value for money. York: University of York, Centre for Health Economics, 1999.
[7] Catalan Agency for Health Technology Assessment. The place of health technology assessment in the health policy decision-making process. Barcelona: Catalan Agency for Health Technology Assessment, 1996.
[8] Rico R, Asua J. The prioritisation of evaluation topics of health. Vitoria-Gasteiz: Osteba, 1996.
[9] Henshall C, Oortwijn W, Stevens A, Granados A, Banta H, editors. Priority setting for health technology assessment: theoretical considerations and practical approaches, International Journal of Technology Assessment in Health Care 1997;13:144–85.
[10] Health Care Insurance Board. Voortgangsverslag doelmatigheid (Progress report on efficiency). Amstelveen: Health Care Insurance Board, 1997.
[11] Health Care Insurance Board. Aanvraag Ontwikkelingsgeneeskunde 1999: informatie subsidie aanvraag Ontwikkelingsgeneeskunde 1999 (Application form for Investigative Medicine 1999: information application for subsidy under the Fund for Investigative Medicine 1999). Amstelveen: Health Care Insurance Board, 1997.

[12] Oortwijn WJ, Ament AJHA, Vondeling H. Use of societal criteria in evaluation of medical technology assessment research proposals in The Netherlands: development and testing of a checklist. Zeitschrift für Gesundheitswissenschaften. Journal of Public Health 1996;4:5–19.
[13] Oortwijn WJ, Vondeling H, Bouter LM. The use of societal criteria in priority setting for health technology assessment in The Netherlands: initial experiences and future challenges. International Journal of Technology Assessment in Health Care 1998;14:226–36.
[14] Ruwaard D, Kramers PGN. Volksgezondheid Toekomst Verkenning : De som der delen (Public Health Status and Forecasts 1997: the sum of the parts). Maarssen: Elsevier/De Tijdstroom, 1997.
[15] Post D, Stokx LJ. Volksgezondheid Toekomst Verkenning : VI zorgbehoefte en zorggebruik (Public Health Status and Forecasts 1997: VI health care need and health care consumption). Maarssen: Elsevier/De Tijdstroom, 1997.
[16] Van der Maas PJ, Kramers PGN. Volksgezondheid Toekomst Verkenning : III gezondheid en levensverwachting gewogen (Public Health Status and Forecasts 1997: health and adjusted life expectancy). Maarssen: Elsevier/De Tijdstroom, 1997.
[17] Health Care Insurance Board. Advies kosten-effectiviteitsanalyse bestaande verstrekkingen (Advice concerning the cost-effectiveness analysis of existing provisions) Advice No. 597. Amstelveen: Health Care Insurance Board, 1993.
[18] Harper G, Townsend J, Buxton M. The preliminarily economic evaluation of health technologies for the prioritisation of health technology assessments. International Journal of Technology Assessment in Health Care 1998;14:652–62.
[19] Health Care Insurance Board. Aanvraag Ontwikkelingsgeneeskunde 2000 (Application form for Investigative Medicine 2000). Amstelveen: Health Care Insurance Board, 1998.
[20] Netherlands Organisation for Scientific Research. Council for Medical and Health Research (MW-NWO). Informatiebrochure Doelmatigheidsonderzoek. Bottom-up ronde DO 2003 (2003–2005) (Information brochure Health Care Efficiency Research Programme). Den Haag: MW-NWO, 2001.
[21] Vondeling H, Douw K, Oortwijn W, Sørensen J, Jørgensen T. Priority setting for early assessment of emerging health technologies in Denmark. Poster presented at the Third International Conference of the International Health Economics Association (iHEA). United Kingdom: York, 22–25 July 2001.